

CLAIMS

What is claimed is:

- 1 1. A smart card system, comprising:
2 a terminal; and
3 a smart card connected to the terminal and configured to initiate communication
4 with the terminal.
- 1 2. The smart card system of claim 1, further comprising a communications
2 protocol that enables asynchronous communications between the smart card and the terminal.
- 1 3. The smart card system of claim 2, further comprising a communications
2 protocol that enables logical asynchronous communication between the smart card and the
3 terminal.
- 1 4. The smart card system of claim 1, wherein the smart card accesses terminal
2 resources connected to the terminal.
- 1 5. The smart card system of claim 1, wherein the terminal is connected to a host
2 computer.
- 1 6. The smart card system of claim 5, wherein the smart card accesses host
2 computer resources connected to the host computer.

1 7. The smart card system of claim 1, wherein the terminal is connected to a
2 network.

1 8. The smart card system of claim 7, wherein the smart card accesses network
2 resources connected to the network.

1 9. The smart card system of claim 1, further comprising a means for establishing
2 communication between the smart card and the terminal.

1 10. The smart card system of claim 9, wherein the means for establishing
2 communication includes means for establishing full-duplex communication.

1 11. A smart card, comprising;
2 a communications circuit; and
3 a microcontroller connected to the communications circuit and configured to
4 initiate communication with a terminal to which the smart card is
5 connected.

1 12. The smart card of claim 1, further comprising a storage unit having a program
2 stored therein.

1 13. The smart card of claim 12, wherein the microcontroller executes the program
2 stored in the storage unit.

1 14. The smart card of claim 13, further comprising a memory unit, wherein the
2 microcontroller temporarily stores the program in the memory unit.

1 15. The smart card of claim 11, wherein the terminal has terminal resources
2 connected thereto and the microcontroller accesses the terminal resources.

1 16. The smart card of claim 11, wherein the terminal is connected to a host
2 computer.

1 17. The smart card of claim 16, wherein the host computer has host computer
2 resources connected thereto and the microcontroller accesses the host computer resources.

1 18. The smart card of claim 11, wherein the terminal is connected to a network.

1 19. The smart card of claim 18, wherein the network has network resources

2 connected thereto and the microcontroller accesses the network resources.

1 20. A method of operating a smart card, comprising;
2 transmitting a command from the smart card to the terminal;
3 waiting for a response from the terminal; and
4 receiving the response from the terminal.

1 21. The method of claim 20, wherein the smart card initiates communication with
2 the terminal.

1 22. The method of claim 20, further comprising a communications protocol that
2 includes
3 a class field,
4 an instruction field,
5 a first parameter field,
6 a second parameter field, and
7 a data field.

1 23. The method of claim 22, wherein the communications protocol is ISO 7816
2 compatible.

1 24. The method of claim 20, wherein transmitting the command and receiving the
2 response occur asynchronously.

1 28. The method of claim 20, further comprising requesting a list of available
2 services from the terminal.

1 29. The method of claim 28, wherein the command is selected from the list of
2 available services.

1
2
3
4

30. A method of debugging a smart card, comprising:
executing a diagnostic portion of a program stored on the smart card;
receiving a result from the smart card; and
comparing the result to an expected result

1

31. The method of claim 30, further comprising displaying the result on a display.

add B1
add C3